Forward by Huw Lewis A.M and Jonathan Morgan A.M

We were delighted by your response to our invitation to take part in a conference to consider the draft Strategy for Information and Communication Technology in Schools. We believe that this will be one of the most important initiatives in education in Wales. If we get this strategy right then it will have a positive impact on the future of children in Wales by giving them the skills to be able to compete for quality jobs. It will help Wales attract companies who require these skills, to develop its own home grown companies and this in turn will contribute to a vibrant Welsh economy.

We were delighted by the general welcome all the delegates gave the strategy - this agreement that we are on the right track will help us when we present the final report to the PRE 16 Education, Schools and Early Learning Committee on the 8th November. As we said on the day we do not believe that Wales has an option but to embrace the possibilities presented by ICT. This is the beginning of a long journey but one that we have to complete and do so with the greatest expediency - there are many challenges but by working together we can overcome them.

The Conference was a first step to ensuring that we work in partnership, we listened to comments and suggestions and will consider them in detail with Neil Harries. We were delighted that colleagues from the Post 16 Education and Training Committee were able to join us as in order to maximise the potential of ICT we must continue the process throughout the full range of education provision. We identified the need for the private sector to join us in this venture as they also have much to gain from this strategy.

We hope that you find this brief synopsis of the Conference helpful. The Conference has moved the strategy forward, it is an important step on the way but we know there are many more. We hope that you will continue to take an interest in the development of this policy and please feel free to let us have your comments at any time. You can contact us through the PRE 16 Education, Schools and Early Learning Committee's e-mail address at pre16education.comm@wales.gsi.gov.uk

Huw Lewis A.M

Jonathan Morgan A.M

Format of Day

10.00	**Opening**	**Huw Lewis A.M** and **Jonathan Morgan A.M**
10.10	**Information Age Wales - Role of the National Assembly**	**Nick Batey**
10.20	**The Strategy - an outline**	**Neil Harries**, Expert Adviser
10.45	**Workshops - administration and theme setting**	**Neil Harries**, Expert Advsier
11.00-12.00	**Workshops** (coffee in rooms)	Facilitators
12.00-12.45	**Lunch**	
12.45-13.30	**Feed back from Workshops and Summary**	Facilitators and Neil Harries
13.30-13.45	**The Scottish Experience** (by video conference link)	**Richard Pietrasik**, Executive Director, Learning and Teaching Scotland
13.45-14.15	**The Irish Experience**	**Frank Kelly** - Department of Education and Science, Ireland
14.30 - 14.50	**The American Experience**	**Neil Harries**
14.50	**Close (Next Steps)**	**Huw Lewis** and **Jonathan Morgan**

Information Age Wales - The Role of the National Assembly for Wales Nick Batey

Information Age Wales

The Assembly recognises the impact that the Information Age Revolution is having world-wide and the opportunities, and potential pitfalls, this offers for Wales. We see a need for the Assembly to take a lead in developing the vision of what an 'Information Age Wales' will look like with partners and stakeholders across Wales, and a role in bringing this vision into reality. We plan to do this through an overarching Information Age strategic framework and supporting programme of activities. This will need to build on the excellent work already going on in the various sectors but will also need to ensure that we reduce unnecessary duplication and are doing sufficient across the full spectrum of activities to ensure success. We feel that there are four main areas we need to be pursuing (although there will be many related activities). These reflect a more holistic approach to ensuring that Wales will benefit from the social and economic opportunities ICT offers:

Building the Community

Working to ensure Wales does not suffer from a digital divide with ICT contributing to social exclusion. People need to be able to access information and services if they are to be of benefit. We think key aspects of this are:

- Focus on how we will get the population of Wales connected, either as individuals or via community resources. We want everyone in Wales to be able to access, and have the opportunity to acquire skills to use the Internet.
- We want every school to have access to extensive, well-supported ICT facilities, including videoconferencing, and facilities directly within the classroom. These should be increasingly made available as a community resource. Hopefully you will form some views on how best to deliver this.
- Having access is not a lot of use if there are no services that are relevant and trusted locally. We want to encourage and support communities to create their own resources and services.

Building the Skills

Access itself is not sufficient. We need to make sure people have the necessary skills, understanding and trust to make best use of the technology. This should form a crucial part of our approach to lifelong learning. We think key aspects of this are:

- **Teach our children**. We want children leaving school to know how to use the ICT resources available to them. To achieve this, we think that in addition to extensive, well supported, ICT facilities within schools, our teachers need to be trained and skilled in how best to make use of ICT in teaching, and more resources need to be developed to support the Welsh curriculum and in the Welsh language.
- **Create a skilled workforce**. Many organisations have difficulty in getting and keeping staff with ICT skills. We need to consider how to address this.

Building the Business

The vast majority of Wales' businesses are classed as small to medium enterprises. These are the lifeblood of our economy. We think we need to:

- Continue to get businesses to see the benefits of e-commerce and make use of the facilities to grow
- Get people connected to create a potential market for companies. But we do not think that will be enough. The public sector is one of the largest consumers in Wales. We could use this to create a demand of public sector organisations trading electronically.

Creating the services

There are huge potentials for improved efficiency and availability to public services through the use of ICT. These can only come about through sustained and co-ordinated investment, a clear focus on key objectives and careful stewardship, especially of the significant change management programme this will demand. We will discuss in detail with Public Sector organisations in Wales how best to achieve this. Nevertheless, we feel there is a key action we can pursue now:

- **Public Sector Networking**. The public sector is the major employer in Wales. The future demands excellent telecommunications facilities, including broadband, to deliver services, provide education and conduct business. Yet we continue to approach the provision of our telecommunications facilities in a piecemeal approach. We will review and identify ways of creating a public sector network that not only provides the necessary facilities for us but also stimulates a genuine competition for telecommunications services across Wales.

The Process - having your say

We intend to carry out extensive consultation to gather ideas and build consensus on what needs to be done and who should do it. We will need to be clear on the role of the Assembly and what we expect of other organisations. We therefore plan to commence a consultation process at the end of October, which will culminate in a strategy in the early part of 2001.

All of this is being driven by Andrew Davies AM, the Business Secretary and the closest we have in Wales to an e-Minister. He is supported by a small team of officials and a task team of external advisors.

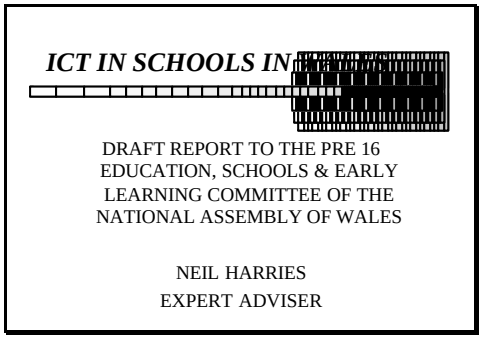
The ICT Strategy team welcome comments on this topic. E-mail comments to info.age@wales.gsi.gov.uk

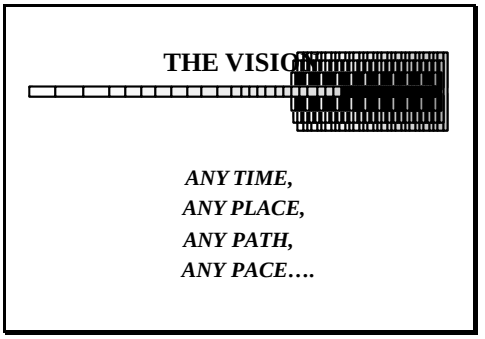
The Draft Strategy

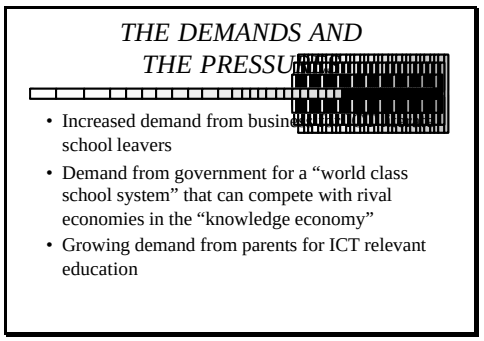
Neil Harries, Expert Adviser to the PRE 16 Education Committee

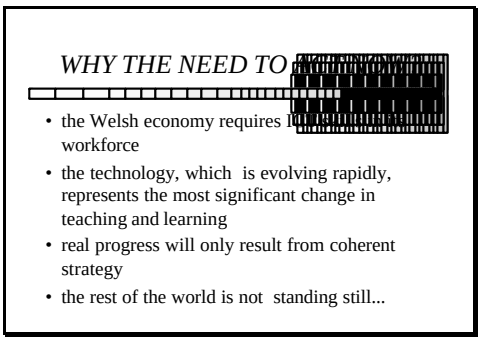
Neil Harries presented to the Conference his draft report which had been complied based on his analysis of the responses to the Committee's consultation and his own research into best practice in other countries. He had spoken to a number of the delegates during his research and their views as practitioners in the education field were reflected in the recommendations. Last but not least he had also brought to the process his experience in education and in particular from his post as Director of Education in Caerphilly County Borough Council. A post from which he retired earlier this year.

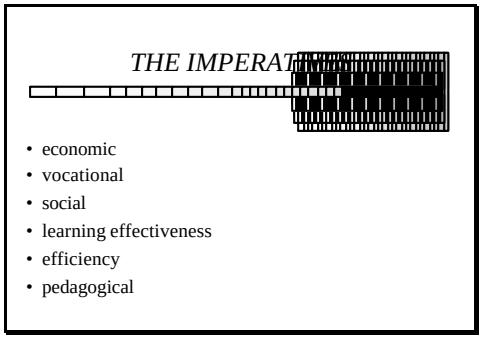
Below is the PowerPoint presentation used by Neil Harries.

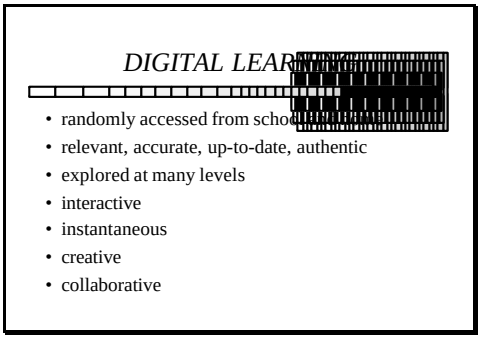












CONTEXT FOR S[illegible]

- all pupils and teachers have equi[illegible]
- pupils with Special Needs are properly supported
- all teachers are properly prepared for the use of ICT in teaching and learning
- the nation invests in education software development
- all pupils leave schools with the ICT skills needed by society

WHERE WE ARE[illegible]

- Fragmented responsibility
- No all-Wales backbone
- Variable local networks
- Low PC ratio in schools
- Fragmented professional development arrangements
- Shortage of high quality relevant digital curriculum content

WHERE WE SHOU[illegible]

Connectivity:

- All Wales backbone operational
- LEA/School networks in place
- PC ratios of 1:5 in three years
- systems maintenance staff in place
- National Grid for Learning Wales in place
- video-conferencing in all secondary schools and colleges

WHERE WE SHOU[illegible]

Competence:

- Agreed Initial Teacher Training ICT component in place that uses the new technologies
- Structured INSET programmes that recognise and develop the new competencies

WHERE WE SHOU[illegible]

Content:

- rapid increase in the development of digital learning programmes
- technical support for the development of new teaching materials
- particular attention to the needs of Welsh and an examination of the potential for a pan-Celtic role for Wales

HOW WE SHOULD GET THERE...

POLICY:

- establish an Advisory Committee for ICT in schools with a 3 year brief
- establish a small ICT Task Force to manage specific short term programmes with a 3 year brief
- establish an NGfL Wales team with a permanent brief

HOW WE SHOULD G[illegible]

COMPETENCE:

- Review the ICT in ITT component in Initial Teacher Training [by ESTYN with seconded teachers in the teams]
- Consider time limited secondment arrangements for teachers who are skilled ICT users into ITT institutions
- Consider the need for a NOF 2 phase

HOW WE SHOULD GET THERE...

CONTENT:

- build on the 5 ADEW projects with an Innovative Schools Initiative Fund to disburse small grants
- put technical support alongside skilled teachers to develop digital content

KEY ISSUE[illegible]

- we need to explore new ways of working in order to assist our schools
- This programme cannot be achieved by the public sector working in isolation
- lessons from other countries indicate that public/private partnerships are crucial to the delivery of major ICT initiatives in schools

THE LESSON FOR [illegible]

Active involvement with schools in the development of ICT structures in not about philanthropy, in other more successful parts of the world such active involvement by business is viewed as enlightened self-interest

THE FUTURE FOR ICT IN SCHOOLS IN WALES

- Early strategy aimed at the structured development of ICT in schools is key to the potential role of Wales in the "knowledge economy"
- uncoordinated, unsupported implementation of ICT into schools is not an option
- the need for our teachers to be adequately trained cannot be under-estimated

THE FUTURE FOR ICT IN SCHOOLS IN WALES

CONNECTIVITY IN THE CLASSROOM IN ITSELF IS NOT THE ANSWER

BUT COMBINE IT WITH THE DEVELOPMENT OF PROFESSIONAL **COMPETENCE** FOR TEACHERS AND THE CREATION OF RELEVANT DIGITAL **CONTENT**

THEY ARE KEY TO THE IMPROVEMENT OF STANDARDS

THE IMPACT OF A ROBUST NEW POLICY FOR ICT IN OUR SCHOOLS IN WALES REPRESENTS A KEY ADDED VALUE BOTH TO THE SCHOOLS IN WALES AND TO ITS EMERGING ECONOMY

FINAL COMMENT

"If Wales can't solve this, then no one can..."

Workshops

Following Neil Harries' presentation the delegates broke into workshops to discuss the key recommendations of the draft report under the three themes of connectivity; Content and Competence. A full list of workshop members is at Annex 1.

Report of Connectivity Working Group

Facilitator - Martin Williams, Co-ordinator ICT Support Services, Powys Local Education Authority.

Our mode of working was to consider the bullet points in the matrix of recommendations, some of which are quite detailed, whilst seeking to draw out the (not necessarily explicit) underlying principles. Such principles, where identified, are shown in bold type.

- National Procurement Framework Agreement for procurement to be introduced, supported by a purchasing consortium

Initial reaction to this was reserved, with focal problem areas being:

- Speed of response
- Value for money
- Ability of a consortium to address total cost of ownership
- Scalability
- Staffing implications for Assembly
- Ability to respond to local needs

On the other hand, there were those who strongly favoured a Framework Agreement to guide purchasing, stressing the increasing need for this in the context of increasing complexity of provision (networks in primary schools, for example).

There was strong and unanimous agreement on the need to produce and maintain a national framework specifying technical standards to guide the procurement procedure.

In effect the group wished to re-frame the recommendation, agreeing with the national framework, but remaining far more sceptical as regards a purchasing consortium, especially if its use were in any way compulsory. Support for an optional body was considerably stronger.

- National Grid for Learning, Wales, to be established

There was broad agreement that it was right to employ a limited number of people to undertake this work, at a national level.

It was felt important that care should be taken to avoid duplication of effort, both vis-à-vis content on the rest of the Internet, and within the context of Wales.
The issue of portal versus central provision was discussed. The group strongly favoured a managed portal approach.

In view of the above principle and other considerations, it was felt that it was desirable that educational providers of content in Wales should be connected, but that the Internet per se was not necessarily the right vehicle for this. The need for a national infrastructure that could carry this content as an intranet was seen as paramount. The group wished to see an all-Wales educational intranet, delivered over a public sector VPN, virtually managed by a small group of people in Wales.

- Establishment of Public Sector Network to form ICT backbone in Wales

There was unanimous agreement on this, but many said we could not wait until 2005; others pointed out that, even starting now, it could take till then to establish a mature and comprehensive structure.

It was agreed that there would have to be a plurality of modes of provision; no one technology could be expected to work for the whole of Wales. This is a crucial point, as it potentially threatens to undermine the most important principle of all, namely, there must be equality of access to the same level of service to all. Specifically, that means (a) provision of the same bandwidth to small, isolated rural schools as to those in cities, and (b) ensuring equality of access for those with physical disabilities or other special educational needs.

It was also stressed that we must think of access in more global terms, not just in schools. Learners - of whatever age - will increasingly need access, wherever they are.

The importance of video conferencing, especially in rural areas, was stressed. The group wished to see video conferencing specifically referenced in the connectivity recommendations.

It was accepted that this would mean the urban sector effectively subsidising the rural sector; this was accepted in principle as simply unavoidable - a fact that should also be brought to bear on the private sector.

It was felt by many, especially those with a corporate IT background, that the establishment of an all-Wales VPN was essentially a purchasing issue. It is here that the Assembly's efforts regarding procurement should be directed. Indeed, access to high bandwidth needs to be a part of the National Procurement Framework, as part of the specified technical standards.

It was also felt by some that the scale of such an undertaking as a national VPN would open the eyes of many in the private sector, facilitating the sort of public/private partnerships that we are seeking.

- Each LEA to establish a curriculum-based LAN in its schools.

This needs to be expressed in clearer terms in the final report. The group asked for this point to be clarified, especially in relation to the next bullet point about 5 drop points.

Regarding the five drop points, concern was expressed that this was perhaps too prescriptive

- Provision of 1:5 in all schools - the group did not get to discuss this issue directly
- Provision of Maintenance and Support

Although strictly tangential to connectivity as such, these issues were discussed briefly. In general, the issue of support and maintenance was seen as crucial to ensure value for money. The figure of one full-time support post per 80 desktops was cited as the accepted norm in commercial environments, which contrasts badly with both schools and indeed County Councils. The figure of 1 support staff to 15 schools was not seen as the most helpful way of expressing the goal since we work with PC:pupil ratios. It would be more helpful to express it in terms of staff:PC ratios.The notion that FE and HE should address the need for training support staff was widely welcomed, though it was stressed by some that schools should not be singled out in this respect - there are increasing career opportunities in IT support that our educational systems are not geared up to respond to.

Finally, it was suggested that a target for 2010 should be the requirement for all external public examinations to be conducted on computer, not on paper. This, it was argued, would do more than anything else to change attitudes to the use of ICT in schools. Interesting idea!

Report of Content Working Group

Facilitator - Simon Brown, Adviser for IT, Cardiff Local Education Authority

Overall comments

- Consensus that the strategic approach is critical for future success
- Need for 'mini-targets' in the content section for April 2002 and beyond
- Need for further actions by April 2005 and April 2010

NGfLW

- Large volume of work will need careful prioritising
- Priorities could be linked to national themes i.e. numeracy
- Coordinated approach to working with LEAs and schools will be essential
- Who will co-ordinate this? Where does the NGfLW team sit in the overall picture?
- Important to avoid re-inventing the wheel/duplication of effort – much good content 'out there'
- Quality assurance role of the NGfLW team in mediating outside content
- Content output – variety of media (SEN issues): Braille and speech synthesis
- If NGfLW acts as a 'one stop shop' then communications between all parties will be vital
- Tap into Welsh Language Board funding
- Positive move for development of Welsh language content
- Commissioning information must be shared among all interested parties – integration
- Agreed need for digital content – BBC Digital Consultation does not even mention Wales
- Portal approach – considered the most appropriate given current technologies
- NGfLW should be flexible to allow development of location specific content (i.e. local history)
- Pan-Celtic multi-track DVD might enable Wales to tap into European funding

Innovative Schools Initiative Fund

- Bid system might put off many potentially creative teachers/schools and therefore must not be seen as bureaucratic
- LEA should act as focal points for identifying and co-ordinating developments in their schools
- The fund should be extended to include LEA themselves as innovative developers
- Positive move for development of Welsh language content
- Time is the critical resource for teachers developing content – flexibility to use fund for supply cover

- Fund will need clear and well focused criteria to enable selection of successful ‘bids’
- How will quality assurance be maintained (Role of NGfLW or LEA?)
- Great potential to develop and disseminate best practice which is replicable in many schools

Report of Competence Working Group

Facilitator - Peter Weston, ICT Adviser, Fflintshire Local Education Authority

General Overview

- Unanimous support for the strategy
- Some concern that the vision is not sufficiently ambitious and that timescales are too long
- Actions should be specific targets e.g. 'consider the possibility of a NOF2 phase' should be expressed as a target to 'implement a three year programme of staff development …'

Competence

1. Starting point should be to identify competency and capability that reflect:

    - The curriculum
    - Technology – including the future
    - Nature of learning – including potential changes
    - Management and leadership roles
    - Advisory roles

    The suggestion of addressing ITT by 2002 and INSET by 2005 needs to be reviewed. The continuum of professional development needs should be considered at the outset thus developing any particular thrust within the context of totality of needs.

1. Partnership is the key to ensuring the NQTs have the required skills and capability:

    - Partners need to be – schools, ITT providers and LEAs
    - Support is required from all partners at every stage – in course development, planning, delivery, assessment and evaluation and when NQTs begin to work in schools
    - Successful partnership, particularly within the context of using technology as a tool to facilitate the partnership, requires revision of the concept of a college and the nature of a school. Learning environments might be a better concept to focus upon.

1. The categories of staff that need to be targeted for staff development need to be broadened:

    - Staff providing ITT
    - Trainee teachers
    - Staff who have not had the opportunity to develop their use of ICT to a level that reflects their considerable pedagogic experience and ability; this is a group that could then be targeted for the development of higher order skills
    - Senior managers within schools: focussing upon planning, resourcing, staff development and maximising the impact on learning of using ICT and aimed at

developing the right culture and vision - including acceptance that teachers need competence plus resources plus time in order to develop capability
- Advisory staff with phase and subject responsibility

The strategy should consider a range of methodologies that can be employed in addition to seconding teachers into ITT – however positive that might be.

1. Access to appropriate ICT resources is essential if staff are to gain the confidence and develop their ICT skills so they can apply them to best effect in their teaching

- this is essential before the higher order skills, identified within the strategy, can be developed
- provision should effectively be a teaching pack comprising hardware, software and guidance that is aimed at developing the 'craft' of teaching
- provision to all ITT students would see them taking the resource into schools

1. NOF2 – the need for further staff development is agreed but the methodology may well need to divert from the current NOF format. What is required is a scheme that:

- makes effective and best use of funding
- offers flexibility in allowing staff development needs to be met through a range of approaches
- allows focused activity rather than attempting to achieve too wide a range of skills
- provides time within school for assimilation and practice
- allows value to be added locally

1. ICTs should be used in building communities that offer advice, support, shared practical experience and resources. Possible community groups might be:

- ITT providers , school staff
- ITT providers , school staff and LEA staff
- ITT providers , school staff , LEA staff and Estyn
- Trainee teachers and existing teachers
- NQTs and LEA staff
- Subject leaders and LEA staff
- Senior managers
- Senior managers and LEA staff
- Target groups undergoing staff development and LEA staff

1. Staff development programme needs to begin next year

The Scottish Experience
Richard Pietrasik, Executive Director, Learning and Teaching Scotland.

Richard Pietrasik joined the Conference by video link from the Learning and Teaching Scotland Conference 'Fusion 2000' in Glasgow. Richard Pietrasik had been the Chief Executive of the Scottish Council for Educational Technology (SCET) up until its amalgamation with the Scottish Curriculum Council in June of this year.

He gave delegates a brief overview of SCET's background and its role which was continuing within the context of Learning and Teaching,Scotland.

SCET began life as the Scottish Film Council in the1940s supplying educational films to schools throughout Scotland. It became incorporated in June 1951 as a company limited by guarantee and registered in Scotland. In 1975 the organisation was re-named as the Scottish Council for Educational Technology and it became a registered charity in 1988. In April 1990 the Scottish Film Council a division of SCET since 1974 was established as a separate company. In July 2000 SCET amalgamated with the Scottish Curriculum Council to form Learning and Teaching, Scotland.

SCET was run by a Board of Directors, designated Governors who were appointed for their individual expertise.

SCET's role has always been to help the education system use media effectively in teaching and learning, and in the years since 1974 SCET has moved from filmstrip and acetate to video and computer software. SCET is a learning organisation and a significant national body and has always employed a unique mix of those with educational and those with technical skills.

The principal activity of SCET is to promote and develop effective use of information and communication technologies, primarily in the education system, but also in corporate training in Scotland and beyond. It adds value to education in Scotland.

SCET receives a grant of £1.3 million from the Scottish Education and Employment Department, the rest of its income is produced from commercial activities relating to its core business. It's turnover for the year ending 31st March 2000 is expected to be in excess of £6million with a forecasted 20% growth rate for the financial year 2000/2001.

The core funding helps subsidise the training that is offered and the development of software, project funding is a growing area and since April 1999 includes funding for the development and maintenance of the National Grid for Learning, Scotland. Other monies comes from commercial sales and consultancy work.

How Schools Buy Software

Schools can purchase software direct from SCET or the Scottish Education and Employment Department pays for software and its development 'up front' and SCET distributes it to schools. SCET also sells its software to other countries principally in the

United Kingdom. It is the main source for teachers in Scotland of software materials that support the Scottish education curriculum.

SCET has a catalogue of some 5,000 titles, which it has evaluated. It runs 'Software in Focus' courses which are used to demonstrate to groups of teachers what software is available and gives them an opportunity to have 'hands on' experience of the software packages.

SCET has a contractual/customer relationship with some of the Further Education sector, which it is planning to extend.

LEA Procurement

There are 32 Education Authorities in Scotland. The current practice is for education authorities to undertake their own procurement and there are no plans to change this. There is an affiliation of some of the education authorities into a procurement group called ABC but not all education authorities are members.

SCET Connect

This is a help line run by SCET for teachers and education authorities. It is set up as a one-call shop and the staff who answer the calls are highly trained and knowledgeable in IT basics, SCET's software and the services that SCET can provided. This has proved to be a service that is highly valued by the education sector in Scotland and also of great value to SCET in helping it to target its commercial and training functions better.

Merger with Scottish Curriculum Council

In July 2000 SCET merged with the Scottish Curriculum Council. This is in recognition of the shared role of both these organisations in relation to developing and supporting the delivery of the curriculum in Scotland. The new organisation will continue to function as a semi-commercial company. The merger is also seen as giving an important message to education in Scotland that ICT is part of the mainstream of education in terms of delivering the curriculum and improving the skills base of young people in Scotland.

National Grid for Learning, Scotland

SCET hosts the National Grid for Learning, Scotland, team, Currently it consists of 6 people but is increasing to 10. They are a mix of curriculum experts with technical support. They also run the NGfL website and maintain it. Post merger it is envisaged that this will be a key function for the new organisation especially as it is anticipated that an increasing amount of curriculum support material will be delivered through the internet and not through CD-ROM as at present. The mainstreaming of ICT into the curriculum is fundamental to the way the new merged organisation will develop its structure and delivery mechanisms.

SCET is watching the development of other NGfL sites (and similar sites) in other countries carefully. For example in Eire their NGfL equivalent is totally funded by INTEL with a direct hot button from the NGfL for e-commerce. SCET is always interested in building partnerships of this kind with the private sector as there is potential for a great deal of money to be brought into education by this route. Such developments also need to have a great deal of safeguards built into them but the potential is great and as long as the right approach is adopted a great deal of benefit for the education sector.

SCET Conference - FUSION 2000 - 27th -29th September 2000

SCET hosts a conference every two years. This year the Conference is being delivered in association with the Glasgow Development Authority. It will run for 4 days including one day exclusively for teachers, which coincides with an 'in-service' training day in Scotland. Alongside the Conference there will be an exhibition, each sponsor will contribute £15,000 for which they get a stand and advertising rights. It is anticipated that there will be some 500 delegates and 3,000 visitors to the Conference and exhibition. It has developed over the years to become a very high profile internationally respected conference with speakers and delegates coming from all over the world to it. This year it will include a web cast - www.fusion-2000.com

Video Conferencing across Scotland

SCET is developing a modular videoconference facility for Scotland. At present it is hope to include the majority of the 32 education authorities. It is a modular system so that it can be expanded to accommodate an increase in the number of users.

National Framework Agreement

The Scottish Education and Employment Department are developing a National Framework Agreement for hardware, which will facilitate the establishment of common rates of costs etc for education authorities and schools. They have identified a need to do this as a way of capitalising on the economies of scale that can be achieved and the need to have a common platform for connectivity and compatibility of IT.

The Scottish Education and Employment Department has commissioned a study into how broadband connections for every school in Scotland can be achieved. The political will to achieve this is there so the study if focusing on the 'how'. Consultants with the technical knowledge have been commissioned to provide a report. This is part of the 'DIGITAL SCOTLAND' Ministerial initiative. Eire are looking at ways of using satellite links to deliver computer connectivity in Eire, SCET are watching developments with interest.

Computers for Teachers

SCET had undertaken this initiative for the Scottish Education and Employment Department. It was a flat rate subsidy to teachers with no restrictions as to where teachers could source their computers. SCET bore the tax burden centrally so there were no tax implications for teachers and it was administratively simpler to manage. A minimum specification was set and teachers received £200 flat rate on proof of

purchase free of tax and National Assurance, which was an additional £83. It was agreed that the first 1500 applicants would receive the computers, with an adjustment to ensure a geographic spread. 5,000 applications were received approximately 10% of all teachers in Scotland. Enough funding was found for all the over 4080 teachers who eventually bought computers.

Teachers and Training

SCET is an approved provider of training in partnership with the Open University and Research Materials (RM) under the National Opportunities Fund training scheme. As well as training teachers in schools it also aims to ensure that teachers and lecturers in teaching training institutions are also up to the same standard of competency in the use of ICT in the curriculum

SCET provides training on a commercial basis either directly or contracts with other trainers to deliver the training for it. SCET obtains accreditation for training wherever possible so that teachers who complete the training have a certificate to confirm their expertise which is also a valuable qualification in its own right. One of the key accreditation is for the CISCO academy, SCET is the only regional academy in the UK. CISCO training involves technical as well as application based skills and it is hoped that by delivering this across Scotland it will bring the general skills level of young people up to a high standard. Behind this is SCET's awareness that it is estimated that there will be some 600,000 unfilled ICT jobs in Europe because of the lack of skills. They want to ensure that Scotland and its young people are best placed to take advantage of this.

SCET have a training suite in Glasgow and will replicate this in Dundee after the merger, as that is where the Curriculum Council is located. This will open up the eastern side of Scotland to its services. It is also considering kiting out a bus as a mobile resource and training base. SCET deliver training to schools in their own premises. This is very important for the rural areas and an increasing part of SCET's work is to deliver training away from their home base.

Gaelic

SCET have translated some of its software into Scottish Gaelic and have identified a small level of demand for Gaelic medium software. Eire is interested in this area in terms of Irish Gaelic and SECT is talking to their equivalent body in Eire about joint ventures.

European Funding

SCET aims to maximise the amount of European funding it receives for its projects. To this end it has one employee that specialises in identifying sources of European money and advising on how to develop projects to capitalise on it. This is an important source of income for educational development in Scotland.

The Irish Experience
Frank Kelly, Department of Education and Science, Ireland

Republic of Ireland
www.irlgov.ie/educ/

February 2000

Republic of Ireland

- Population : 3.74 million
- Schools/Pupils/Students:
  - Compulsory Schooling - age 6 years to age 15 years.
  - First- Level (for children ages 4 - 12)
    - Number of schools - 3,423
    - 50% of schools have 4 or fewer teachers.
    - Number of pupils - 469,628
    - 51 % of 4 year olds are in school
    - 98 % of 5 year olds are in school

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Republic of Ireland

- Second - Level (children ages 12 - 18)
  - Number of Schools - 758
  - Number of Students - 371,184
  - Estimated rate of transfer to Third - Level - 47 %
- Third - Level - University, etc.
  - Number of Students - 100,204

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Schools IT 2000

A Policy Framework for the New Millennium
November 28th 1997

February 2000

Schools IT 2000

- Running until the end of the year 2000,
- Government Investment of £40 million,
- Investment of £15.9 million by Telecom Eireann,
- Action to be targeted on:
  - classroom resources and infrastructure,
  - teacher skills development and support,
  - policy and research.

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Schools IT 2000

- Key Objectives:
  - Pupils in every school will have the opportunity to achieve computer literacy and to equip themselves for participation in the information society.
  - Support will be given to teachers to develop and renew professional skills, which will enable them to utilise ICT as part of the learning environment of the school.

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National Policy Advisory and Development Committee

- **Role and Function of the NPADC.**
  - To advise the Minister for Education and Science on the role of Information and Communication Technologies (ICTs) in the Irish education system.
  - To advise the Minister for Education and Science on the ICT development needs in Irish Education.
  - To investigate future policy direction under IT 2000 and to make recommendations how best to utilise advances in technology for the benefit of Irish Education.
  - To oliaise inter alia with the Board of Management of the NCTE, the Department of Education and Science, the ICTCoordination Unit and the Industry Advisory Group in the formulation of ICT policy advice for the Minister for Education and Science.

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Schools IT 2000

- Technology Infrastructure Initiative,
- Teaching Skills Initiative,
- Schools Support Initiative:
  - ScoilNet,
  - School Integration Project.

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Schools IT 2000

- May 1998 - All schools in the free education system at primary and post-primary levels received grants as follows:
  - Ordinary Schools at first and second-levels: £2000 plus £5 per pupil. A school with 40 pupils received £2200 and a school with 400 pupils received £4000.
  - Ordinary schools with one or more special classes received an additional grant of £1500 plus £20 per head for each special class pupil.

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Schools IT 2000

- Special Schools received a grant of £3000 plus £20 per pupil.
- In addition a special fund of £250,000 was made available for the provision of computer equipment to individual pupils with special needs in ordinary classrooms. This has been made available also in 1999.
- Funding has also been allocated to provide hardware for Teacher Training Institutions, the Inspectorate, Education Centres and the School Integration Project.

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Schools IT 2000

- Technology Infrastructure Initiative to date:
  - An Internet connection in all schools by early 1999.
  - Approx. 17 % of schools (mostly second - level) have multi - user access to the Internet.
  - Ratios students to computers of 17:1 at first - level and 13:1 at second - level.
- Targets for 2000:
  - Broadband access to Internet for every classroom.
  - All schools to be networked.
  - Target ratio Students to Computers of between 8:1 and 5:1.

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Schools IT 2000

- Teaching Skills Initiative to date:
  - Inservice Training in ICT provided for 40,000 + teachers.
  - Pre-service training in ICT now provided for all student teachers.
- Targets for 2000:
  - Further development of Pre-service provision in ICT for student teachers.
  - Provision of wider range of courses with progression to certification at Post-Graduate level.

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Schools IT 2000

- Schools Support Initiative:
  - National Centre for Technology in Education at www.ncte.ie/
  - ScoilNet - Network for Irish Schools at www.scoilnet.ie/
  - School Integration Project
    - An investigation of the integration of ICT into learning and teaching.
  - Network of Education Centres - IT Advisers.

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Schools IT 2000

- Partnership
  - Eircom - Information Age Schools Project
  - IBM - Wired for Learning
  - INTEL - ScoilNet
  - SUN Microsystems
  - Hewlett Packard
  - Siemans
  - Many local partners.

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Post Schools IT 2000

- **A New 3-Year Programme**
  - In response to the success of the programme to date, £81 million is being made available over the next 3 years of a new and greatly expanded programme. This will include a series of ambitious targets. Specifically:

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Post Schools IT 2000

- Every classroom will be connected to the Internet with high-speed access.
- The ratio of pupils to computers will be significantly reduced.
- Ireland's teachers will have a very comprehensive on-going ICT professional development programme available to them.
- Ireland will use technology to implement the most advanced curriculum support programme possible.
- Continuing development of co-operation on an International Level - e.g. European SchoolNet (EUN) and US/Ireland Project.

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- The integration of ICT into the Learning Environment for children is the aim. ICT must be available to pupils and teachers in the same way that technology such as pen and paper, books, etc. are now available in schools.Thus, computers in the classroom rather than children in the computer room must be our objective.

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Issues of Concern

- Providing access for all children.
- Teacher Professional Development.
- Community Access.
- Learning/Teaching/Curriculum/Classroom Organisation.
- Applications/Software.
- Internet Awareness/Safety/Security.
- Evaluation.

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Issues of Concern

- Sustaining levels of Technology.
- Internet Access Costs.
- School Design/Layout.
- Technology/Computers for Teachers.
- Time.

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- ICT is changing the way we work and play, as well as making fundamental alterations in the meaning of concepts such as distance, since we can now easily interact with others on the other side of the world in ways that we could not have imagined a relatively short time ago.

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- The Introduction of ICT into schools has the potential to create important changes in the classroom.
- How to convince teachers of the need to change?
- How to ensure that adequate funding is available for
  - Infrastructure
  - Teacher Development
  - Curriculum Support
- ICT itself is evolving at a very rapid pace.
- Need to ensure that the potential of ICT for positive change is exploited.

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URLs

- Www.irlgov.ie/educ - Department of Education and Science, Dublin 1, Ireland.
- www.ncte.ie - National Centre for Technology in Education.
- Www.scoilnet.ie - Irish Internet Portal for Education.
- Www.eun.org/ - European SchoolNet Web portal. Access point to 20 National websites.

February 2000

Frank Kelly
kellyfr@educ.irlgov.ie

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The American Experience
Neil Harries, Expert Adviser to PRE16 Education, Schools and Early Learning Committee

Neil Harries reported on his visit to Silicon Valley and the visit of his staff the following year. He outline the key role attached to classroom access to online facilities and the importance that they accorded to good INSET for teachers to enable them to tap into the curricular potential of the new technologies. However, the overriding message emerging for the visit was the enlightened view taken of assisting schools in ICT development by local business and commerce. Without the involvement of good business acumen and skills the ICT story in Silicon Valley areas would have been much less significant.

Delegate List

Elizabeth	Arnold Davies	Regional Development Officer Professional Association of Teachers (Cymru)
Graham	Avery	Assistant Director, Bridgend
Stuart	Ball	ICT Co-ordinator, Monmouthshire LEA
Phil	Bassett	Head of School of Education & Humanities, NEWI
Perry	Bowen	
Simon	Brown	Adviser for IT, Cardiff LEA
Jill	Collins	Specialist Teacher, South Wales Association for those teaching the Visually Impaired
Nicola	Crews	Senior Education & Employment Officer, Royal National Institute for the Blind
Paul	Cunningham	Audit Commission Wales
Jayne	Davies	Course Director, BA(Hons) Education Secondary Drama, UWIC
Verity	Donnelly	ACCAC
Geraint	Ellis	Ynys Mon
Tommy	Evans	Ceredigion CC
Kevin	Fisher	Chief Executive, Fforwm
Sarah	Ford	Science Adviser, Swansea LEA
Fred	Gambie	ICT Advsier, Education Support and Inspection Service
David	Groves	Parliamentary & Policy Officer, Royal National Institute for the Blind
Bernie	Henderson	Baglan IT Centre
Jendy	Hillier	Associate Adviser, Vale of Glamorgan
David	Hopkins	Director of Education, Caerphilly LEA
Anne	Hovey	National Association of Head Teachers, Cymru
Ken	Howard	Wales Information Centre Manager, WDA
David	Howarth	Welsh European Funding Office, Machynlleth
Les	Howells	IT Manager, Bridgend
Mike	Isted	ICT Adviser, Pembrokeshire
Elgan	James	Faculty of Humanities, Swansea Institute of Higher Education
Arwel	Jones	Senior Education Officer, Welsh Language Board
Dyfan	Jones	National Union of Teachers, Cymru
Gwynne	Jones	Chief Executive, Cynnal
Gareth	Jones	Secondary Heads Association
Hugh	Knight	Chief Schools Officer, Cardiff C.C
Susan	Lewis	Chief Inspector, Estyn
Brian	Lightman	Bagaln IT Centre
Merfyn	Lloyd Jones	Chief Education Officer, Wrexham
Steve	Lomas	ICT Team Co-ordinator, Wrexham

David	Longman	Senior Lecturer and Subject Leader for ICT Teacher Education Department, Newport
Pam	Mahoney	Welsh Primary Schools Association
Paul	Martin	ICT Adviser, Torfaen
Alun	McCarthy	Examinations Officer, Welsh Joint Education Council
Ian	McLean	BECTA
Hannah	Meyrick	Blaenau Gwent CBC
Julian	Molloy	ICT Adviser, Denbighshire LEA
Delyth	Molyneux	Ynys Mon
Ian	Morgan	Principal Education Officer, Caerphilly LEA
Claire	Moyle	Development Manager, NDCS Wales
Gareth	Newton	Divisional Director Lifelong Learning, Rhondda Cynon Taff
Richard	Orme	Head of Technology in Learning & Employment, Royal National Institute for the Blind
Gary	Owen	Lifelong Learning, TECs in Wales
Nigel	Owen	National Grid for Learning Project Manager, Rhondda Cynon Taff
Hugh	Pattrick	Secretary, Governors Wales
John	Pearce	Specialist Teacher, South Wales Association for those teaching the Visually Impaired
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Mark	Provis	INCLUDE
Edward	Pryce	ICT Adviser, Newport CBC
Maldwyn	Pryse	ICT Co-ordinator of Curriculum Support Services
R G	Rees	Welsh Joint Education Council
Iona	Rees Evans	ICT Co-ordinator, Conway
David	Rhodes	Education Officer, Denbighshire CC
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Patrick	Sullivan	Director, Media Technology Programmes, WDA
David	Sutherland	Bridgend CBC
Howard	Tanner	Director of Graduate Studies, U C Swansea
Howard	Thomas	C.B.C of Merthyr
Peter	Tyndall	Head of Education, Welsh Local Government Association
John	Valentine Williams	Chief Executive, ACCAC
Peter	Weston	ICT Adviser, Mold
Stuart	Whippey	Education & Leisure Services Manager, Merthyr Tydfil CBC
Ian	Wilcox	Service Manager, Baglan It Centre, Neath Port Talbot
Alan	Williams	
Edwyn	Williams	Ysgrifennydd Cyffredinol (General Secretary) UCAC
Martin	Williams	Co-ordinator, ICT Support Services Powys
Roger	Williams	Director of Education & Community Services, Ceredigion

Annex 1

Workshops

Connectivity	Content	Competence
Martin Williams - facilitator	**Simon Brown - facilitator**	**Peter Weston - facilitator**
Patrick Sullivan	Ken Howard	Fred Gambie
Mike Isted	Claire Moyle	Steve Lomas
Ian Wilcox	Edwyn Williams	Iona Rees Evans
Ian Morgan	Dyfan Jones	Elgan James
Les Howells	John Valentine Williams	Chris Price
David Sutherland	Merfyn Lloyd Jones	Jayne Davies
Huw Jones	Julian Molloy	Susan Lewis
Peter Ellis Roberts	Edward Pryce	Kevin Fisher
Gareth Newton	Arwel Jones	David Hopkins
Nigel Owen	Peter Tyndall	Paul Martin
Jill Collins	David Howarth	Roger Williams
Nicola Crews	Dr Gwynne Jones	Elizabeth Arnold Davies
Jendy Hillier	Anne Hovey	Stuart Whippey
Hannah Meyrick	Stuart Ball	David Longman
John Pearce	Dr Alun McCarthy	Richard Orme
Hugh Pattrick	Maldwyn Pryse	Pam Mahoney
Dr Howard Tanner	David Groves	Geraint Ellis
David Rhodes	Graham Avery	Brian Lightman
Howard Thomas	Verity Donnelly	Gareth Jones
	Phil Bassett	Mark Provis
	Bernie Henderson	Sarah Ford
	Hugh Knight	Gary Owen
	Perry Bowen	Ian McLean
		Paul Cunningham
		Delyth Molyneux
		Alan Williams